TIMKEN


# TIMKEN® DEEP GROOVE BALL BEARING CATALOG

## SIZE RANGE

Deep groove ball bearings are available in a variety of sizes and are the most popular of the rolling bearings. This type of bearing supports radial load and a small degree of axial load in both directions simultaneously. Deep groove ball bearings are popular due to their versatility, affordability, and capability to run at high speeds.

Timken offers deep groove ball bearings in a wide range of sizes and configurations. Offered sizes range from 3 mm to 400 mm bore, and maximum outside diameter (O.D.) of 600 mm. Timken continues to expand the offering of deep groove ball bearings with larger sizes to be introduced. Contact your Timken sales representative for questions and new opportunities.

## TYPES

There are several series of deep groove ball bearings that have been standardized by bearing manufacturers. The boundary dimensions for standard metric bearings are contained in the general plans as specified in ISO (International Organization for Standardization) standard 15:2011 for radial rolling bearings.

The Timken offering includes standard, thin-section, narrow, wide, miniature and extra-small constructions. The offering includes:

- Open basic design
- With shields
- With contact seals
- With non-contact seals
- With a snap ring groove on the outer ring O.D.
- With a snap ring on the outer ring O.D.

## CONFIGURATIONS

Variations may differ based on bearing size and/or series.

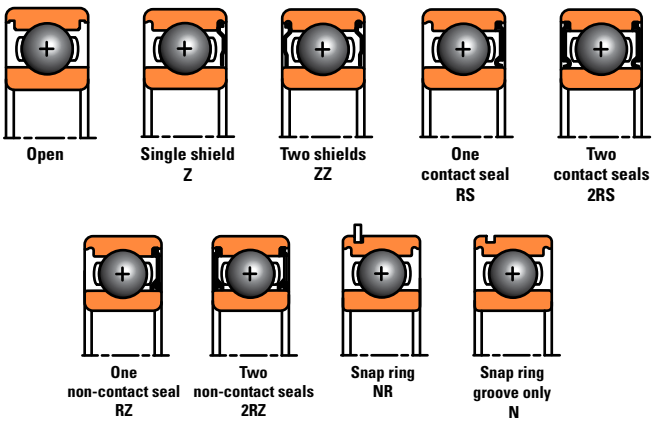


**Fig. 1. Deep groove ball bearing configurations.**

# CAGES

Cages (also referred to as retainers) make a vital contribution to overall bearing performance. They maintain uniform ball spacing in the bearing as the balls pass into and out of the load zone.

Cages can impact several bearing operational characteristics such as:

- Maximum rotational speed
- Torque characteristics
- Temperature limits
- Lubricant flow

There are a number of different cage types that are commonly used in deep groove ball bearings, the most popular being the riveted steel cage. Table 1 describes the most common cage types.

**TABLE 1. COMMON CAGE TYPES**

| Type | Two-Piece Riveted Steel Cage | One-Piece Stainless Steel Crown-Type Cage | One-Piece Polymer Crown-Type Cage | Machined-Brass Cage |
|---|---|---|---|---|
| Design |  |  |  |  |
| Construction | Two pressed-steel half cages are fixed together with rivets; ball-piloted cage provides good uniformity of ball-to-pocket clearance. | Pressed stainless-steel cage guided by inner ring. | One-piece molded snap-in 6/6 nylon cage. | Two identical half cages made from solid brass, fixed together with rivets. |
| Advantages | Designed to reduce frictional torque; high rigidity and strength, making it the cage of choice for most applications. | Best performance in low-speed applications where low torque is preferred. | Tough and flexible especially in situations of misalignment; resistant to most solvents, oils and greases. | Superior strength enables this cage to be used in heavily loaded and high-speed applications. |